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The National Wildlife Refuge System: Incompatible Recreational and Economic Uses of Refuge Lands

Kimberley J. Priestley†

What is man without the beasts? If all the beasts were gone, man would die from a great loneliness of spirit. For whatever happens to the beasts, soon happens to man."

—Chief Sealth

INTRODUCTION

The National Wildlife Refuge System (NWRS) is a unique and diverse network of over 90 million acres of lands and waters within the United States. From the glaciers of Alaska to the temperate Florida Keys, from the rugged coast of Maine to tropical islands of the Caribbean and Central Pacific, the refuge system offers sanctuary to over half of the estimated 4,500 species of birds, mammals, and fish in the U.S.

Since the first wildlife refuge was created in 1903, the NWRS has grown to include over 450 refuges. Managed by the U.S. Fish and Wildlife Service (FWS), the refuge system encompasses the only federal lands managed primarily for the preservation and enhancement of wildlife resources. Unfortunately, over the past several decades, increasing recreational¹ and economic² uses of refuge resources have jeopardized the preservation purposes of the NWRS.³ This increase in incompatible uses of

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1. Harmful recreational uses range from supposedly low impact wildlife related uses such as hiking and beach use to high impact activities such as power boating, air boating, waterskiing, and off-road vehicle use.

2. Economic uses include oil and gas development, mineral extraction, farming, grazing, haying and rights of way.

3. A recent GAO study reported that activities considered harmful to wildlife are occurring on nearly sixty percent of wildlife refuges. General Accounting Office, National

refuge resources has occurred despite legislation mandating that secondary economic and recreational uses be "compatible"⁴ with the primary purposes of the NWRS.

At the heart of the problem of incompatible secondary uses of refuge resources is the fact that the NWRS is the only major federal public land management program that does not have an overall guiding body of law, or "organic act," for its administration.⁵ Instead, the NWRS operates under a loose structure of individual refuge enabling acts, problem-specific statutes, and federal laws. Without an overarching guiding law to fuse these existing mandates, their protectionist purposes are often rendered ineffective. Thus, the lack of an organic act, combined with inadequate funding, insufficient statutory protection from potentially destructive activities and uses, political and community pressures, and limitations on FWS jurisdiction over refuge resources, has resulted in the problem of incompatible use existing today.

This Comment addresses the problem of incompatible uses on refuge lands. Section I briefly summarizes the history and management of the NWRS and sets forth the basic tenets of the NWRS Administration Act's "compatibility" standard.⁶ Section II points out the problems of incompatible secondary uses on refuge lands. Section III examines the possible reasons behind the FWS's acquiescence to these incompatible recreational and economic uses and proposes solutions. Finally, this Comment concludes that an organic act, coupled with increased funding, would help the NWRS achieve its primary goal of providing protection for wildlife resources and their habitats.

I. THE NATIONAL WILDLIFE REFUGE SYSTEM

A. *History*

The NWRS has grown in a piecemeal and "opportunistic"⁷ fashion, largely in response to perceived wildlife crises. The refuge system

Wildlife Refuges' Continuing Problems with Incompatible Uses Call for Bold Action, 101st Cong, 1st Sess 13 (1989) ("GAO Report").

4. Refuge Recreation Act, 16 USC § 460k (1962); National Wildlife Refuge System Administration Act, 16 USC § 668dd(d)(1) (1966) ("NWRS Administration Act").

5. The National Park System is guided by the 1916 Organic Act, the National Wilderness Preservation System by the Wilderness Act of 1916, the National Forest System by the National Forest Management Act of 1976, and the Bureau of Land Management by the Federal Land Policy and Management Act of 1976.

6. 16 USC § 668dd(d)(1).

7. Advisory Committee on Wildlife Management, A Study of the National Wildlife Refuge System, US Dept Interior 1 (1969) ("Leopold Report"). According to this report, refuge growth

emerged at the turn of the century in response to the devastating effects of the millinery trade on bird populations and the near extinction of many big game species due to overhunting.⁸ Both conservationists and hunters alike pressed for the establishment of a refuge system aimed at restoring and protecting wildlife resources. The refuge system formally came into being in 1903 when President Roosevelt, himself a lifelong conservationist and hunter, established the three acre Pelican Island Reserve as a preserve and breeding ground for brown pelicans, egrets, and great blue herons.⁹ Thus began the system which today encompasses over 450 refuges.

Spurred by these early conservation efforts, Congress passed numerous legislative acts that have been crucial to the evolution of the existing NWRS. These include specific enabling acts establishing individual refuges as well as general legislative acts focusing on specific management procedures of the NWRS. Following is a brief synopsis of the existing conglomeration of individual laws governing the refuge system: the Migratory Bird Treaty Act of 1918,¹⁰ which protects both game and non-game birds that migrate between the U.S. and Canada; the Migratory Bird Conservation Act of 1929,¹¹ which gives the Secretary of the Interior the power to acquire and maintain lands necessary to implement congressional migratory bird conservation goals; the Migratory Bird Hunting and Conservation Stamp Act (the Duck Stamp Act) of 1934,¹² which requires hunters to purchase duck stamps, the revenues of which are used to acquire refuges; the Fish and Wildlife Act of 1956,¹³ which authorizes the Secretary of the Interior to acquire refuge lands for all forms of wildlife, not just migratory birds; the Wetlands Loan Act of 1961,¹⁴ which was implemented to accelerate a wetlands acquisition program; the Refuge Recreation Act of 1962,¹⁵ which authorizes the recreational use of refuges so long as such use is secondary to the refuge system's primary purpose of habitat protection and preservation; the 1964 Land and Water Conserva-

has been opportunistic, including periodic changes in objectives, though the one continuing objective is the protection and husbandry of the continental migratory waterfowl population.

8. Dennis Drabelle, *The National Wildlife Refuge System*, Natl Audubon Soc Annual Rpt 151, 152 (1985).

9. Exec Order No 1014 (Jan 26, 1903). Pelican Island is now part of the 4,396 acre Pelican Island National Wildlife Refuge.

10. 16 USC §§ 703-711 (1918).

11. 16 USC § 715a (1929).

12. 16 USC §§ 718-718h (1934).

13. 16 USC §§ 742a-754a (1956).

14. 16 USC §§ 715(k)(3)-715(k)(5) (1961).

15. 16 USC § 460k (1962).

tion Fund,¹⁶ which provides additional acquisition funds; the NWRS Administration Act of 1966,¹⁷ which mandates that all secondary uses be compatible with NWRS purposes but fails to define "compatible;" and the 1973 Endangered Species Act,¹⁸ which authorizes the purchase of refuge lands to protect endangered or threatened wildlife and plant species.

Though abundant, the numerous statutes aimed at the NWRS have only provided piecemeal responses to particular wildlife needs. All have failed to provide an overarching enforceable body of law, or "organic act," that clearly stipulates refuge policy and guidelines.

B. *Management of the National Wildlife Refuge System*

As the agency responsible for the NWRS, the FWS has traditionally employed a decentralized approach to refuge management. While responsibility for developing overall NWRS policy lies with the FWS Division of Refuge Management in Washington, D.C., specific program guidance, supervision, and oversight are provided at the regional level.¹⁹ Individual refuge managers retain considerable responsibility for refuge management, having the duties of inventorying refuge resources, developing and maintaining public relations, determining the environmental impacts of biological processes and public use, and alerting higher management to detrimental use. More importantly, they also have the authority to decide whether proposed economic and recreational uses on refuge lands are compatible with the primary purpose(s) of each individual refuge. Only when a refuge manager's compatibility determination causes substantial controversy will the issue of compatibility be reviewed by the regional director.

This high degree of autonomy among the various levels of management has resulted in administering the NWRS as individual units, with no cohesive approach for the system as a whole. Without a congressionally mandated organic act, the various tenets of the system are subject to individual manager interpretation. For instance, in addition to the compatibility mandate, refuge managers are supposed to abide by the NWRS's *Refuge Manual* which, among other things, sets forth a "mission statement" to guide refuge operations.²⁰ Though not legally binding, the mis-

16. 16 USC §§ 460l(4)-(11) (1964).

17. 16 USC § 668dd (1966).

18. 16 USC §§ 1531-1543 (1973).

19. Wendy Lee Smith, *The National Wildlife Refuge System*, Natl Audubon Soc Annual Rpt 413, 419 (1986) ("1986 Audubon Report").

20. U.S. Fish and Wildlife Service, *Refuge Manual* 1 (1986) (internal document).

sion statement requires the NWRS "to provide, preserve, restore, and manage a national network of lands and waters sufficient in size, diversity, and location to meet society's needs for areas where the widest possible spectrum of benefits associated with wildlife and wild lands is enhanced and made available."²¹ But, as with the compatibility mandate, without clear implementing guidelines or enforcement measures, little deference is paid to the mission statement by agency leadership and political appointees.²²

In addition to following the compatibility standard and the mission statement, individual refuge managers are supposed to guide operations in accordance with the purposes established in each refuge's enabling legislation. These purposes range from narrow ones, such as preserving and managing the habitat of a single species, to more universal ones, such as providing waterfowl habitat or fulfilling international migratory bird treaty obligations. But, as with the mission statement, because of the lack of a guiding organic act, refuge managers are given great deference in deciding to what extent individual refuge purposes should or should not be followed.

C. *The Compatibility Mandate*

Though wildlife refuges exist for the protection of wildlife resources, the NWRS Administration Act provides that the secretary can "permit the use of any area within the System for any purpose, including but not limited to hunting, fishing, public recreation and accommodations, and access whenever he[she] determines that such uses are compatible with the major purposes for which such areas were established."²³ Thus, the FWS theoretically cannot approve any secondary use of refuge lands incompatible with the NWRS's primary purpose of protecting and enhancing wildlife resources.

21. The broad goals designed to fulfill this mission are to perpetuate the migratory bird resource; to preserve a natural diversity and abundance of fauna and flora on refuge lands; to preserve, restore, and enhance in their natural ecosystems all species of animals and plants that are endangered or threatened with becoming endangered; to provide an understanding and appreciation of fish and wildlife ecology and humans' role in their environment; and to provide refuge visitors with high-quality, safe, wholesome, and enjoyable recreational experiences oriented toward wildlife, to the extent these activities are compatible with the purposes for which the refuge was established. *Refuge Manual* at 1 (cited in note 20).

22. The Wilderness Society, *The National Wildlife Refuge System: Improving Its Integrity Through Legislation* (1989) (internal memorandum; on file with author).

23. 16 USC § 668dd(d)(1).

Realistically, though, the act serves only as a vague protective measure against various uses of refuge resources. It fails to lay out any concrete standards governing the type, quality, or quantity of biological or ecological criteria that should be used by FWS personnel in making compatibility decisions. The act also fails to establish standards governing the timing and nature of the decision process and does not provide an appeals procedure.²⁴

The FWS has attempted to clarify the compatibility mandate in their internal *Refuge Manual* by defining "compatible use" as use "that does not materially interfere with or detract from the purpose(s) for which the refuge was established."²⁵ The *Refuge Manual* impels compatibility determinations to be based upon site-specific biological evaluations of the anticipated impacts of proposed activities on wildlife populations and their habitats.²⁶ The *Refuge Manual* also calls upon refuge managers to perform periodic reviews of ongoing secondary uses to ensure continued adherence to the compatibility standard.²⁷ But, unfortunately, this guiding principle lacks the force of law and leaves refuge managers considerable discretion in implementing guidelines and authorizing secondary uses.²⁸

II. THE PROBLEM—INCOMPATIBLE SECONDARY USES

Though the first wildlife refuges were established to preserve pristine sanctuaries of land and water for the protection and preservation of wildlife, today refuges are subject to such a variety of uses that their primary purposes are not only being challenged, but are actually being compromised. Of great concern are the threats that increased recreational and economic uses pose to refuges.

24. The Wilderness Society, *The National Wildlife Refuge System: Providing Guidance on Compatibility* 1 (1989) (internal memorandum; on file with author).

25. *Refuge Manual* (cited in note 20).

26. *Id.*

27. *Id.*

28. The *Refuge Manual's* guidelines for reviewing proposed uses include: 1) identifying the refuge purpose, 2) describing the proposed use and where, when, how, and why the use would be conducted, 3) assessing the impact of these factors on the refuge, taking into consideration both short and long term effects of the proposed use, 4) determining whether a use that may appear incompatible as originally proposed can be made compatible through stipulations that avoid or minimize anticipated adverse impacts, and 5) on the basis of the previous steps, determine whether the use is compatible and list any stipulations. *Id.* But, without the power of a congressional mandate, the standards are not consistently applied throughout the refuge system in a way to ensure that fish, wildlife and habitat are protected against incompatible secondary uses.

The problems arising from incompatible recreational and economic uses on refuge lands have occurred in large part because there is no congressionally mandated organic act to guide and enforce compatibility determinations. Though both the Refuge Recreation Act and the NWRS Administration Act subject refuge managers to a "compatibility mandate,"²⁹ neither contain clear legal standards as to what the mandate entails or what enforcement measures it provides. So, for the most part, individual managers have discretion to determine whether or not a certain activity poses a threat to an individual refuge.³⁰ Unfortunately, this high degree of discretion leads the FWS to acquiesce to incompatible uses which often jeopardize the primary purposes of the refuges.

This section will briefly describe the detrimental effects of secondary uses of refuge lands, as well as the FWS's failure to follow the "compatibility mandate" in guiding these uses.

A. *Recreational Uses*

The growth of recreational activities on refuge lands originates from the era just following World War II. The nation's recovering economy, coupled with increased mobility, expanded the traditional recreational refuge uses of fishing and hunting to activities such as boating, water-skiing, camping, and off-road vehicle use.³¹ These activities pose a variety of threats. For instance, power boating, waterskiing, air boating, and other water-based recreational activities destroy habitat, interrupt nesting seasons, pollute resources, cause hens to abandon nests because of high wakes and noise, and destroy aquatic vegetation (an important source of duckling food).³²

To control growing recreational use on refuge lands, Congress enacted the Refuge Recreation Act in 1962.³³ The act recognized that the primary purpose of the refuge system was to provide for wildlife and their habitats. It thus required that any recreational use be compatible with this purpose and that there be sufficient funds available to manage com-

29. Refuge Recreation Act, 16 USC § 460k; National Wildlife Refuge System Administration Act, 16 USC § 668dd(d)(1).

30. In addition, refuge managers are not consistently required to document their justifications for allowing a secondary use, thus giving managers that much more discretion.

31. Lynn A. Greenwalt, *The National Wildlife Refuge System*, in Howard P. Brokaw, ed, *Wildlife in America* 399, 404 (Council on Environmental Quality, 1978).

32. Hope Ryden, *Conflict and Compatibility: When Does Use Become Abuse?*, *Wilderness* 25, 29-30 (Fall 1983) ("Conflict and Compatibility").

33. 16 USC § 460k.

patible recreational activities before the activities be allowed.³⁴ This act was later reinforced by the NWRS Administration Act's mandate that *all* secondary uses be compatible with the purposes of the refuge.³⁵ Unfortunately, because these acts did not adequately define "compatibility," they did not curb recreational use to any substantial degree. Moreover, despite this legislation, increased population growth coupled with expanding public interest in wildlife resources has resulted in a substantial increase in incompatible recreational uses of refuge lands.

A symptomatic example of the problems accompanying incompatible recreational uses exists on the Chincoteague National Wildlife Refuge on Assateague Island in Virginia. The refuge is well known as the winter home for snow geese, the nesting ground for the endangered piping plover and peregrine falcon, vital habitat for the endangered Delmarva fox squirrel, and the home of the Chincoteague ponies. Unfortunately, it is also known for its sandy beaches, which draw over 1.5 million visitors per year—visitors driving off-road vehicles which destroy dune vegetation, cause erosion, and disrupt wildlife. These activities are threatening the breeding of the piping plover and reducing other migratory bird populations.³⁶

B. *Economic Uses*

Economic uses of refuge lands began in the early days of the refuge system, often as a concessionary gesture in the acquisition of land. But, as economic uses expanded, controversy over the effects of these uses erupted.

In an attempt to govern economic uses to some degree, the NWRS Administration Act extended its compatibility mandate to all secondary uses, not just recreational uses.³⁷ But, as with recreational uses, loose compatibility standards have allowed for extensive economic uses such as grazing, oil and gas exploration, mineral extraction, timber harvesting, and farming of refuge lands.³⁸ As with recreational uses, these activities

34. *Id.*

35. 16 USC § 668dd.

36. GAO Report at 52 (cited in note 3). The accommodation of this incompatible use compelled the Wilderness Society to name Chincoteague as one of the nation's ten most endangered national wildlife refuges of 1988.

37. 16 USC § 668dd.

38. Grazing began in the early days of the refuge system, both as a concessionary measure and because it was traditional public use at the time of refuge establishment. Farming, haying, and timber harvesting were initially used as a habitat management technique. Additionally,

pose serious threats to refuges. For instance, oil and gas development causes damage to refuge lands due to erosion, breaks in oil, gas, and saltwater injection lines, leaks from waste pits, storage pits, and impoundment ponds, contamination of streams and groundwater, solid waste disposal, severe vehicular disturbance of species habitat, and game poaching by employees.³⁹

An illustrative example of the economic use problem is the damage caused by grazing at Malheur National Wildlife Refuge in southeastern Oregon.⁴⁰ Malheur was established as a sanctuary and breeding ground for migratory birds and other wildlife, though grazing has been allowed since its enactment in 1908.⁴¹ Grazing has been responsible for a dramatic decrease in total waterfowl production on the refuge, including a reduction in the sensitive species of the greater sandhill crane.⁴² In a twenty-five year period, total waterfowl production decreased over 90 percent.⁴³

III. THE REASONS BEHIND THE PROBLEM OF INCOMPATIBLE USE AND POSSIBLE SOLUTIONS

This section focuses on the more prevalent reasons why the FWS allows incompatible uses on refuge lands. Of greatest concern is the NWRS's lack of an organic act, though insufficient funding, inadequate implementation and enforcement of existing statutory protections, external pressures, and limitations on jurisdiction also add to the problem.

A. *The Need for an Organic Act*

Of all the difficulties facing the NWRS today, the lack of a single overall guiding body of law for refuge administration is the most trouble-

initial oil and mineral rights were the result of vested private rights in refuge lands. *Conflict and Compatibility* at 26 (cited in note 32).

39. *Id.*

40. Malheur NWR produces thousands of major nesting ducks and hundreds of colonial nesting water birds annually.

41. GAO Report at 63-64 (cited in note 3).

42. Grazing not only allows trampling of nesting cover and nests, but also allows for invader species to take over nesting grounds—species that the FWS tries to eradicate through herbicides, which in themselves detrimentally affect wildlife. Grazing fences destroy or divide nesting territories, feeding grounds, and roosting sites and cause bird and deer deaths by entanglement. 1986 Audubon Report at 439 (cited in note 19).

43. *Id.* Total waterfowl production decreased from 151,000 ducklings in 1948 to 13,330 ducklings in 1973. In response, the FWS has begun an effort to reduce grazing, though sandhill crane populations have continued to decline. Crane populations declined from 236 pairs in 1971 to 186 pairs in 1985.

some. Among the major federal public land entities—the National Park System, the National Wilderness Preservation System, the National Forest System, and the Bureau of Land Management—the National Wildlife System is the only body that does not have an organic act.⁴⁴ Instead, the NWRS operates under a loose structure of individual refuge enabling acts and federal laws.

Refuge enabling acts and federal laws do not provide the NWRS with adequate legislative vitality to ensure consistent protective management. An organic act is needed, and needed soon, for without one the destructive effects of incompatible uses will continue. Scientist A. Starker Leopold captured the essence of this argument in the 1968 Leopold Report,⁴⁵ stating

nearly everyone has a slightly different view of what the refuge system is, or should be. Most duck hunters view the refuges as an essential cog in perpetuation of their sport . . . bird watchers and protectionists look upon the refuges as places to enjoy the spectacle of masses of water birds, without disturbance by hunters or by private landowners; they resent any hunting at all. State fish and game departments are pleased to have the federal budget support wildlife areas in their states but want maximum public hunting and fishing on these areas. The General Accounting Office in Washington seems to view the refuges as units of a duck factory that should produce a fixed quota of ducks per acre or of bird days per duck stamp dollar. The Bureau of Outdoor Recreation sees the refuge system as 29 million [now 90 million] acres of public playgrounds.⁴⁶

Leopold concluded that “all of these views are valid to a point . . . what is still lacking, however, is a clear statement of policy or philosophy as to what the National Wildlife Refuge System should be and what are the logical tenets of future development.”⁴⁷

Leopold's observations still hold true today. The NWRS needs an organic act that clearly states that its overall purposes are the preservation and restoration of the NWRS's fish, wildlife, plants, and habitat for present and future generations.⁴⁸ In addition to this comprehensive goal

44. See note 5.

45. Leopold Report (cited in note 7).

46. *Id.*

47. *Id.*

48. According to the Wilderness Society, the ideal organic act should “state clearly and unequivocally that the NWRS should be administered to ensure that the various units of the

statement, a consensus among various environmental groups⁴⁹ calls for an organic act that addresses at least three basic issues: 1) a strict clarification of "compatibility" standards; 2) requirements for ongoing refuge planning and system coordination; and 3) a set of explicit purposes for each refuge.⁵⁰

1. *Clarification of Compatibility*

The NWRS Administration Act allows the Secretary of the Interior to "permit any use of any area within the System for any purpose . . . whenever he[*she*] determines that such use is compatible with the major purposes for which an area was established."⁵¹ This broad discretion has historically allowed commercial activities such as grazing, oil and gas development, mineral extraction, timber harvesting, and farming, as well as destructive recreational activities such as off-road vehicle use and power boating, regardless of the fact that they are secondary rather than primary uses of refuge lands.

To lessen this discretion, an organic act should govern the "compatibility" issue more stringently, explicitly stating the type, quality, and quantity of biological, ecological and other information needed to assess the compatibility of a specific activity. In assessing the compatibility of a proposed use, the refuge manager should evaluate the location, timing, and duration of the activity to determine if the activity will have detrimental direct or indirect effects.⁵² If an activity is found to be incompatible according to the stipulated criteria, the activity should not be allowed.⁵³

system are managed so as to retain or restore natural ecosystems for wildlife habitat, ecological study, interpretation, and other appropriate uses; that no native species of plant, fish, or animal life shall become rare, endangered, or extinct because of lack of proper habitat; and that the primary purpose of the refuge system is the protection and preservation of all aspects of individual ecosystems." The Wilderness Society, *Toward the Twenty-First Century: A Wilderness Society Agenda for the Wildlife Refuges*, Wilderness 32, 32-35 (Fall 1983).

49. The Wilderness Society, Defenders of Wildlife, National Audubon Society, Sierra Club, and National Wildlife Refuge Association.

50. The Wilderness Society, *The National Wildlife Refuge System: Improving its Integrity Through Legislation* (1989) (internal memorandum; on file with author).

51. 16 USC § 668dd(d)(1).

52. 1986 Audubon Report at 424 (cited in note 19).

53. Incompatible uses include uses that direct funds or personnel away from refuge management programs.

2. *Requirements for Ongoing Refuge Planning*

The FWS already has in place a planning program at the national, regional and field station levels, but because the FWS lacks a congressionally mandated organic act to guide these planning operations, individual managers have wide discretion in preparing and following plans.

To better direct FWS employees and ensure the effective operation of the NWRS, an organic act must implement sound planning standards for both the system as a whole and for the individual refuges, coupled with a requirement of periodic updates of that planning.⁵⁴ Refuge plans should include strategies and standards for maintaining viable populations in the NWRS and in each individual refuge ecotype or ecosystem.⁵⁵ This necessarily includes developing protectionist approaches towards zones of migration, dispersal, and other fish and wildlife movements.⁵⁶ Within each refuge, a conservation plan should be developed that will identify and describe respective values of designated areas based on their archaeological, cultural, ecological, geological, historical, paleoecological, physiographic, and wilderness potential.⁵⁷ Plans should maintain these documented values while specifying programs for conserving fish, wildlife, plants, and habitat.⁵⁸ Plans should also explicitly specify the uses within each area that might possibly be compatible with the purposes of the individual refuge and the system as a whole.⁵⁹

3. *Explicit Establishing Purposes for Each Refuge*

According to the Leopold Report, "for each refuge there will always be some primary or transcending function that receives or deserves major attention."⁶⁰ But, though many refuges were acquired to satisfy a specific purpose, not all were given adequate purpose statements.⁶¹ Thus, many refuges have no concrete purpose against which to determine compatibility issues. An organic act establishing primary purposes for all existing

54. The Wilderness Society, *The National Wildlife Refuge System: Making It Work as a System* (1989) (internal memorandum; on file with author).

55. The Wilderness Society, *National Wildlife Refuge System Management and Policy Act of 1989* (1989) (internal memorandum; on file with author).

56. *Id.*

57. *Id.*

58. *Id.*

59. *Id.*

60. Leopold Report (cited in note 7).

61. The Wilderness Society, *The National Wildlife Refuge System: Establishing Refuge Purposes Through Legislation* (1989) (internal memorandum; on file with author).

refuges, in addition to an over-arching system goal, could easily provide the link needed to determine compatibility.

B. *The Need for Increased Funding*

Inadequate funding also poses a major threat to the integrity of the NWRS. Most significantly, low funding has resulted in insufficient staffing and inadequate refuge growth.

Insufficient staffing, in itself, contains a myriad of threats: lack of ability to monitor compatible uses, little or no law enforcement, insufficient public education, inadequate scientific research, and so on. A stark example of the staffing shortage exists at Yukon Flats National Wildlife Refuge in Alaska, which has four people assigned to patrol, administer, and manage wildlife on 8.5 million acres.⁶²

Inadequate acquisition funds also inhibit refuge growth essential to maintaining the NWRS's diverse wildlife.⁶³ Not only do more refuges need to be acquired, but existing refuges need to be expanded. As the refuge system exists today, many refuge lands are merely "postage-sized" areas abutting undeveloped lands. These abutting lands are crucial in maintaining diversity of habitat necessary to sustain the variety of species that inhabit any one refuge. As agricultural, industrial, and residential developments move in on these lands, certain species are inevitably sacrificed. Unless Congress appropriates more money to acquire these lands, the wildlife populations the refuge system is supposed to protect will most certainly decline.

A profound example of the consequences posed by insufficient acquisition funds exists at Crocodile Lake National Wildlife Refuge in North Key Largo, Florida. The Crocodile Lake refuge is the home of the American Crocodile and five other endangered species.⁶⁴ The refuge abuts 12,000 acres of undeveloped hardwood hammock and mangrove wetlands that are being targeted by developers for condominiums and luxury hotels. Although Congress has approved the addition of 7,100 acres as a

62. *Conflict and Compatibility* at 31 (cited in note 32).

63. Acquisition funds come primarily from Migratory Bird Hunting and Conservation Stamps or Duck Stamps, 16 USC §§ 715k(3)-(5), which provide for the acquisition of migratory bird habitat; and from the Land and Water Conservation Fund, 16 USC §§ 460l(4)-(11), which is used to acquire lands for endangered species protection, recreation, and congressionally authorized refuges.

64. The Wilderness Society, *Islands of Life: A Program for the Future of the Wildlife Refuges* 1, 3 (undated).

buffer zone for the wildlife refuge, the FWS lacks the funds to carry this out.⁶⁵

As the NWRS's funding problems are inevitably intertwined with many of the reasons why the FWS accommodates incompatible uses, a rational starting point in trying to get more money is the institution of an organic act. An organic act, by providing the FWS with statutory guidelines as well as an overriding purpose, should strengthen the FWS's image.⁶⁶ This in turn, should increase the NWRS's constituent base and raise awareness as to the problems of incompatible uses. A solid constituent base could give the NWRS the influence it needs to compete successfully with other federal programs for limited federal funds, for it is well recognized that forceful constituents exert great influence in Congress.⁶⁷

C. *The Need for Better Implementation and Enforcement of Existing Statutory Authorities*

Currently, there are various federal statutes that can prevent, abate, or mitigate external threats to the NWRS if implemented and enforced in the proper manner. However, because of the FWS's current piecemeal management practices, they are not employed to their full potential. An organic act would guide refuge managers in their implementation of existing federal laws by stipulating the procedural requirements with relation to each act.

Following is a brief summary of pertinent wildlife laws, general environmental legislation, and land and water management statutes and doctrines that, if implemented to their full potential, could have a crucial impact on the survival of refuge wildlife and habitat resources. Unfortunately, the FWS has not taken an active role in using or enforcing these

65. *Id.*

66. According to Professor Jeanne Nienaber of the University of Arizona, agency organic acts have documented effects on practical matters such as funding. In addressing the FWS's lackluster reputation, she concludes that "evidence seems to favor . . . agencies which are given a statutory base at the time of their creation or shortly thereafter, in terms of enhancing their longevity as well as their influence." Dennis Drabelle, *Going It Alone: An Inside Look at a Vulnerable System*, *Wilderness* 12, 14 (Fall 1983).

67. It is quite foreseeable that Congress would increase appropriations not only to appease its constituents, but because Congress has traditionally been a friend of the NWRS. Congress' interest in the NWRS is evidenced by the fact that throughout the Reagan years when the administration was actively attempting to stifle land acquisition, Congress provided the refuge system with acquisition funds despite the fact that the FWS requested little to no acquisition appropriations. For example, in 1983 Congress appropriated \$27.2 million in response to the FWS request for \$1.6 million, and in 1984 Congress appropriated \$46 million in response to the FWS request for zero acquisition funds. Dennis Drabelle, *The National Wildlife Refuge System*, Natl Audubon Soc Annual Rpt 151, 157-158 (1985).

statutes to their full potential. Though the FWS attributes partial blame to inadequate funds and staff, the FWS itself must take some blame for its lack of initiative in using these protective tools.

1. *Federal Wildlife Laws*

In the last century, Congress has passed a series of wildlife protective statutes aimed at the perpetuation of certain species.⁶⁸ The most important are the Migratory Bird Treaty Act, the Marine Mammal Protection Act, and the Endangered Species Act. Ideally, these statutes would provide the FWS with a legal means of protecting species against threats, though in actuality they do not provide a comprehensive answer.⁶⁹

Upon violation of any of these acts' provisions severe penalties apply;⁷⁰ thus, they can serve as effective enforcement tools in preventing the harassment, capture, or killing of migratory waterfowl, designated marine mammals, and endangered and threatened species within wildlife refuges. These acts can also serve as catalysts for refuge acquisition, as refuges necessarily serve as land and water bases for each act's purposes.

a. *Migratory Bird Treaty Act*⁷¹

The Migratory Bird Treaty Act (MBTA) makes it unlawful to "take" a migratory bird in any way and thus serves as a potentially powerful tool in protecting migratory birds.⁷²

For instance, one of the weighing factors that eventually shut off agricultural irrigation drainage flowing into Kesterson National Wildlife Refuge was the charge that the killing of the birds by selenium tainted waters constituted a "taking" under the MBTA.⁷³ Nonetheless, enforcement of the MBTA does not appear to be widespread, one key reason

68. Congressional concern for wildlife has emerged primarily in the protection of certain species, rather than widespread habitat or ecosystem protection. See Edwin M. Smith, *The Endangered Species and Biological Conservation Act*, 57 S Cal L Rev 361 (1984).

69. George Cameron Coggins, *Protecting the Wildlife Resources of National Parks from External Threats*, 22 Land and Water L Rev 1, 8 (1987).

70. For example, the Endangered Species Act provides for criminal penalties of up to \$20,000 in fines and up to a year in prison, as well as civil penalties of up to \$10,000 and forfeiture of guns, vehicles, or other equipment used to aid the violation. 16 USC § 1540.

71. 16 USC §§ 703-712 (1918).

72. The act makes it unlawful "to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, nest, or egg of any such bird." 16 USC § 703.

73. 1986 Audubon Report at 440-41 (cited in note 19).

being that the FWS has inadequate funds and staff to enforce it to its fullest potential.

b. Marine Mammal Protection Act⁷⁴

The Marine Mammal Protection Act (MMPA) is directly applicable only to wildlife refuges which border the sea. The MMPA prohibits the killing, hunting, or harassment of seals, sea lions, manatees, walruses, polar bears, sea otters, whales, dolphins, and various other ocean mammals.⁷⁵ The inclusion of the broad "harassment" prohibition allows for effective protection of marine mammals against not only intentional harm, but also against unintentional detrimental acts as well.⁷⁶ Unfortunately, as with the other federal statutes, compliance actions require money and people, both of which the FWS is lacking at this point.

c. Endangered Species Act⁷⁷

The Endangered Species Act (ESA) protects plant and animal species that have been formally listed as "endangered." An endangered species is "any species which is in danger of extinction throughout all or a significant portion of its range."⁷⁸ Once a species is listed as endangered it cannot be "taken,"⁷⁹ imported or exported; sold, shipped or received in interstate commerce; or possessed if it has been unlawfully taken.⁸⁰

The ESA includes provisions imposing distinct duties on federal agencies, including the FWS. Section 7 of the act specifies duties aimed at preventing the federal government from itself causing the extinction of any species.⁸¹ As to wildlife refuges, the act requires the FWS to "insure

74. 16 USC §§ 1361-1407 (1972).

75. 16 USC § 1362. The FWS is responsible for administering the act with regard to manatees, dugongs, polar bears, sea otters, and walruses, while the authority over all members of the order Cetacea (whales and porpoises) and all members, except walruses, of the order Pinnipedia (seals) lies with the Secretary of Interior. 16 USC § 1362(11)(A)-(B).

76. Michael Bean, *The Evolution of National Wildlife Law* 253 (Praeger, 1983). According to the House committee report, the "act of taking need not be intentional: the operation of motor boats in waters in which these animals are found can clearly constitute harassment." HR Rep No 707, 92nd Cong, 1st Sess 23 (1971).

77. 16 USC §§ 1531-1543 (1973).

78. 16 USC § 1532(6).

79. To "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in such conduct. 16 USC § 1532(19).

80. 16 USC § 1538(a). Though none of the provisions of the act apply automatically to threatened species, the Secretary may make any or all of the prohibitions applicable to threatened species as well if necessary for the conservation of the species. 16 USC § 1533(d).

81. Michael J. Bean, *The Endangered Species Act: Protecting the Living Resources of the Parks*, in David J. Simson, ed, *Our Common Lands* 225 (Island Press, 1988) ("Endangered Species Act").

that any action authorized, funded, or carried out by [FWS] is not likely to jeopardize the continued existence of any [listed species or result in the] destruction or adverse modification [of its critical habitat]."⁸² This provision acts both as a restraint on FWS management policies and as a device to protect refuge wildlife by effectively halting proposals to allow or increase secondary uses that are detrimental to the survival of endangered species. Of equal importance is the legal authority derived from Section 7 which empowers the Secretary of the Interior to designate certain habitat critical to an endangered species and thus trigger added protection.⁸³

At the Key Deer Refuge in the western Florida Keys, the FWS's disregard of the protective ESA has resulted in a serious threat to the Key Deer, the very species the refuge was established to protect.⁸⁴ At the Key Deer Refuge, increased traffic on lands within and adjacent to the refuge kills a substantial number of deer. However, thus far the FWS has neglected its duty under the act to stop the killing of the endangered Key Deer, in part because of lack of funds. With increased funds, staff, and initiative, the FWS could use the Endangered Species Act to prohibit local planning decisions that do not reflect the needs of the Key Deer; to step up enforcement measures and institute legal actions against speeders and unauthorized road users; to procure funds under the auspices of the act; and to designate certain habitat as critical to the Key Deer in order to enjoin proposed road expansion within refuge boundaries.

2. General Environmental Laws

Though none of this nation's general environmental laws directly target the NWRS, they could indirectly benefit refuge wildlife resources and habitat by serving to abate or mitigate polluting activities that pose threats to refuges. Unfortunately, the provisions of these acts often go unheeded, for the FWS not only lacks funding for intensive environmental monitoring, but also lacks influence over the agencies responsible for instituting compliance actions.

82. 16 USC § 1536(a)(2).

83. *Endangered Species Act* at 225 (cited in note 81).

84. The refuge is also home to the endangered bald eagle, manatee, and peregrine falcon, plus the alligator, great white heron, osprey, and 200 other bird species. The Wilderness Society, *Ten Most Endangered National Wildlife Refuges* 1 (1988).

a. The Clean Air⁸⁵ and Clean Water⁸⁶ Acts

While the Clean Air Act and the Clean Water Act were enacted to protect human health, they necessarily benefit wildlife as well.⁸⁷ The acts serve to protect refuges by regulating emissions from polluting facilities. Though they primarily affect off-refuge facilities, they do pertain to on-refuge polluting activities as well, especially economic secondary uses such as oil, gas and mineral development. If these activities violate the stipulated air and water quality emission standards, enforcement actions can be instituted,⁸⁸ though often the FWS is precluded from using these acts to their full capacity because collecting evidentiary data needed to institute compliance actions takes funds and trained staff.

The Great Swamp Refuge in New Jersey furnishes a sound example of the problems unregulated water pollution can cause to refuges. This refuge is home to the endangered blue-spotted salamander and bog turtle, as well as 300 species of birds, mammals, and fish. Rapid growth in the refuge's 55-square-mile watershed is straining the two sewage plants whose effluent flows eventually reach the refuge.⁸⁹ The presence of highly toxic PCB's in these wastewaters, combined with the added nutrient load of agricultural runoff, have posed a serious threat to the refuge. The FWS has predicted that if this problem is not addressed, the number of waterfowl hatched at Great Swamp will be cut in half by the mid-1990s.⁹⁰ This is a classic example of a situation where the FWS should, in cooperation with the Environmental Protection Agency, make sure that the sewage plants are fulfilling the mandates of the Clean Water Act. Unfortunately, enforcement of these mandates requires money and staff the FWS simply does not have.

85. 42 USC §§ 7401-7642 (1982).

86. 33 USC §§ 1251-1387 (1982 & Supp 1985).

87. See George Cameron Coggins, *Protecting the Wildlife Resources of National Parks from External Threats*, 22 Land and Water L Rev 1 (1987).

88. Section 309 of the Clean Water Act contemplates four possible sanctions against a violator of NPDES permit conditions or effluent limitations: 1) compliance orders; 2) civil actions for equitable relief or money damages; 3) civil penalties of up to \$25,000 per day per violator; and 4) criminal penalties imposed against any person who willfully or negligently violates permit conditions or effluent limitations. The Clean Air Act provides for compliance orders and/or civil money penalties, as well as § 120 economic non-compliance penalties.

89. The Wilderness Society, *Ten Most Endangered National Wildlife Refuges* (1988).

90. *Id.*

b. National Environmental Policy Act⁹¹

The National Environmental Policy Act (NEPA) is a statute designed to ensure that agency decisions are made with a complete awareness of potential environmental impacts. Rather than mandating a course of agency action, NEPA provides the procedural framework for assessing potential impacts, alternatives to the action, and mitigation factors.

The focus here is NEPA's requirement for environmental impact statements for federal actions that significantly affect the environment. By allowing the FWS an avenue to participate in all other agency resource decisions, this procedural requirement can serve as a fundamental tool to the FWS in resisting site-specific threats brought about by the actions of other agencies.⁹² NEPA is also a powerful tool for intergovernmental coordination among the various federal agencies, providing a mechanism to organize responsibilities imposed by general pollution statutes such as the Clean Air and the Clean Water Acts.⁹³

Of equal, if not greater, importance is NEPA's role in opening up federal agency decision making to local citizen groups. Citizen "watch-dog" groups can use the NEPA process to ensure that agencies, including the FWS, follow NEPA's procedural requirements, and can institute lawsuits if they do not.

3. *Federal Land and Water Management Laws and Doctrines*

The following land and water management statutes, and related doctrines, have great potential in abating or mitigating refuge threats. However, as with the wildlife protection statutes and general environmental laws, their success depends on their degree of utilization by the FWS.

a. Wilderness Act of 1964⁹⁴

Designation of lands within the refuge system under the Wilderness Act provides for the protection of "natural" wildlife habitat ecosystems. According to the act, wilderness areas are those that are "untrammeled by man, where man himself is a visitor who does not remain."⁹⁵ They are areas of "underdeveloped Federal land retaining [their] preserved character and influence, without permanent improvement or human

91. 42 USC §§ 4321-4370 (1982 and Supp 1985).

92. National Environmental Policy Act § 102(2)(c), 42 USC § 4332(2)(C).

93. Clean Air Act, 42 USC §§ 7401-7642; Clean Water Act, 33 USC §§ 1251-1387.

94. 16 USC §§ 1131-1136 (1964).

95. 16 USC § 1131(c).

habitation, which [are] protected and managed so as to preserve [their] natural conditions.”⁹⁶

Areas designated as “Wilderness” within a wildlife refuge are under the management of the FWS, subject to the provision that the FWS must manage the lands “to preserve the wilderness character of the area.”⁹⁷ To fulfill this responsibility, the act prohibits any commercial enterprise in the wilderness area, forbids permanent roads, and, except as necessary for minimal administration of the area, bans temporary roads, motor vehicles, motorized equipment or motorboats, landing of aircraft, and any other form of mechanical transport, structure, or installation.⁹⁸ Thus, since the act requires wilderness lands to retain their wilderness character, the allowance of incompatible secondary uses on wilderness lands can, in theory, be more easily challenged by other agencies and citizen suits.

The controversy over oil and gas drilling in the Arctic National Wildlife Refuge in Alaska provides a representative example of the importance of the designation of wilderness areas on refuge lands. In recent years there has been increasing pressure to open up refuge lands to oil exploration, but fortunately, eight million of the twenty million acres comprising Arctic NWR have already been designated “Wilderness,” thus protecting them against drilling.⁹⁹ However, the remaining twelve million acres are still at risk, and, under increasing pressure from the oil industry, the FWS is reluctant to designate the balance of the Arctic NWR as wilderness.

b. Wild and Scenic Rivers Act¹⁰⁰

The purpose of the Wild and Scenic Rivers Act of 1968 is decidedly preservationist. Congress declared it to be

the policy of the United States that certain rivers of the Nation which, with their immediate environments possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic cultural, or other similar values, shall be preserved in free-flowing conditions, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.¹⁰¹

96. Id.

97. 16 USC § 1133(b).

98. 16 USC § 1133(c).

99. The Wilderness Society, *Ten Most Endangered National Wildlife Refuges* 1 (1988).

100. 16 USC §§ 1271-1287 (1968).

101. 16 USC § 1271.

The act vests primary management authority over designated rivers in the federal agency or department with jurisdiction over the lands through which the rivers flow.¹⁰² Thus, designated rivers within refuge boundaries are subject to FWS refuge management criteria, though in the event of a conflict the more restrictive guiding provision shall apply.¹⁰³ The act's requirement that the FWS follow the more restrictive provision essentially provides that designated rivers shall be managed as wilderness waterways.¹⁰⁴ Despite this, the FWS may permit activities compatible with the purpose of the act provided it does not sanction uses that significantly detract from the wilderness character of the stream course.

In addition to regulating activities along or in designated waters, the act regulates federal agency projects outside refuge boundaries. For instance, the act prohibits the construction or operation of upstream water diversion facilities that threaten to diminish the quantity of the water flows of designated rivers.¹⁰⁵ Also of significant consequence is the act's role in protecting designated segments from upstream uses of water that impair the quality of the water.¹⁰⁶ However, it is important to note that these restrictions apply only to other agencies; there is no comparable provision addressing private activities.

c. Doctrine of Reserved Water Rights

The doctrine of federal reserved water rights is based on the premise that when the United States withdraws land from the public domain for a particular federal purpose, such as a national wildlife refuge, it impliedly reserves unappropriated water sufficient for the purposes of the land's withdrawal.¹⁰⁷ The purpose of the reservation is limited to the purpose originally set forth in the legislation withdrawing the land from the public domain.¹⁰⁸ As the NWRS has no comprehensive organic act, the purposes of the refuges are those set forth in each refuge's individual enabling legislation. Thus the priority date of water appropriation rights is coterminous with the refuge's enactment date.

102. 16 USC § 1281(c).

103. *Id.*

104. Brian E. Gray, *No Holier Temples: Protecting the National Parks Through Wild and Scenic River Designation*, in David J. Simson, ed, *Our Common Lands* 338 (Island Press, 1988).

105. 16 USC § 1278(a).

106. *Id.*

107. *Winters v United States*, 207 US 564 (1908); *Cappaert v United States* 426 US 128 (1976).

108. *United States v New Mexico*, 438 US 696 (1978); *Cappaert v United States* 426 US 128 (1976).

It is well established that overall wildlife refuge policy is to protect wildlife and their habitat; thus, the reserved rights doctrine necessarily reserves enough water to ensure these goals. This allows the doctrine to serve as an effective curb on potential damage from later appropriators whose uses diminish the refuges' reserved rights.

This doctrine is especially powerful when combined with other protective statutes. For instance, as to wilderness areas within refuge lands, the Wilderness Act serves as the initial legislation creating an entirely new reservation of federal lands.¹⁰⁹ Thus, the more protectionist purposes of the Wilderness Act determine the reservation of water, and all new wilderness areas secure a priority date as of the date of the act. Additionally, river segments designated as "Wild and Scenic" on refuge lands receive the additional protection of reserved rights for instream flows.¹¹⁰

D. *External Pressures on FWS Refuge Management*

Another primary reason why the FWS allows detrimental secondary uses on refuge lands is intense political and community pressure. A recent GAO report disclosed that "in response to various external pressures, refuge managers have, either on their own initiative or as directed by higher FWS management, continued to allow many secondary uses they nonetheless regard as harmful to wildlife resources."¹¹¹ Refuge managers said that "they were sometimes willing to accept the adverse effects of some harmful activities as the price of obtaining the good will of the public or for various economic reasons."¹¹² The damaging uses allowed because of external pressures range from swimming, hiking, fishing and hunting, to power boat and off-road vehicle use.

The GAO report concluded that the primary reason for both national and local FWS acquiescence to incompatible activities was the FWS's deference to external pressures in making compatibility determinations.¹¹³ For example, in the case of Des Lacs National Wildlife Refuge in North Dakota, the FWS director went against the recommendations of the refuge managers to end power boating and waterskiing on the refuge, in spite of documented declines in bird and fish populations, because of strong community pressure. Rather than considering only the biological

109. See *Sierra Club v Block*, 622 F Supp 842 (D Colo 1985).

110. *Id.* The Wild and Scenic Rivers Act is the only federal statutory acknowledgement that reserved rights exist for instream flows. 16 USC §§ 1271-1287 (1968).

111. GAO Report at 25-26 (cited in note 3).

112. *Id.*

113. GAO Report at 26 (cited in note 3).

factors linked with the compatibility decision, the director took into consideration the economic activity and revenues brought to the area by waterskiers and the effect this would have on nearby property values.¹¹⁴ According to Forrest A. Carpenter, manager of Des Lacs from 1946 to 1948 and assistant regional supervisor for refuges in the 1960's, there is "no question that the existence of more complete legislation [than the subsequently enacted NWRS Administration Act] for the refuge system would have enabled the Service to resist the external pressure which resulted in the permitting of the incompatible non-wildlife related activities."¹¹⁵

It is very plausible that the enactment of an organic act would solve the problem of acquiescence to external pressures. An organic act would set forth legally binding guidelines that would eliminate the current discretion at all levels of management with regard to determining compatibility issues. To be effective in this regard, an organic act should further specify that all compatibility decisions must be accompanied by written justifications.¹¹⁶

E. *Limitations on Jurisdiction*

Lack of ownership and control over refuge resources also limits FWS's authority over secondary uses.¹¹⁷ Jurisdictional constraints on FWS management of secondary economic and recreational activities are of three principal classifications: 1) lack of jurisdiction over subsurface mineral rights; 2) shared jurisdiction over navigable waters within or adjoining refuge boundaries; and 3) lack of fee title to certain refuge lands.¹¹⁸

1. *Lack of Jurisdiction Over Subsurface Mineral Rights*

Problems arise concerning lack of jurisdiction over subsurface mineral rights on refuges where the federal government has failed to acquire

114. Id at 56-57.

115. Joint Hearing of the Subcommittees on Environment, Energy, and Natural Resources and Fisheries and Wildlife Conservation and the Environment, U.S. House of Representatives, 101st Cong, 1st Sess (1989) (statement of the National Wildlife Refuge Association).

116. As it stands now, the FWS does not require documented justifications and even goes so far as to allow individual managers the authority to negotiate with proposers of secondary uses and to resolve conflicts.

117. According to a 1989 GAO report, "refuge managers reported that about one-third of all the harmful uses they identified occurred as a result of this lack of complete FWS jurisdiction over refuge resources." GAO Report at 27 (cited in note 3).

118. Id at 25-29.

underlying mineral rights along with overlying land from private parties.¹¹⁹ Of concern is the fact that the Department of the Interior has historically taken the position that it must afford holders of subsurface rights reasonable access to their rights because a prohibition of private rights would constitute an illegal taking of an individual's property.¹²⁰ In essence, the Department of the Interior is exempting prior rights from existing compatibility mandates.

The FWS has tried to address this oil industry loophole through less than thorough guidelines set forth in its *Refuge Manual*.¹²¹ However, because the *Refuge Manual* is not backed by the force of law, refuge managers have wide discretion in applying its provisions. An organic act would cure the inadequacies of the *Refuge Manual*, though the only real solution to this problem is for the FWS to buy any existing subsurface mineral rights. The FWS should seriously consider this option, though its viability necessarily depends on the FWS's ability to procure more federal funds.

A fitting example of the serious problems that emerge because of lack of jurisdiction over subsurface mineral rights exists at D'Arbonne National Wildlife Refuge in Louisiana. D'Arbonne is home to the endangered red-cockaded woodpecker as well as 41 species of mammals, 53 species of reptiles, and 23 species of amphibians.¹²² It is also home to a conglomeration of oil and gas development projects. These projects are seriously damaging the refuge habitat's ability to support wildlife because of erosion, water contamination and other environmental degradation. Unfortunately, the FWS has limited capability to control this development because it did not purchase the subsurface estate to the refuge, so the operations continue without FWS restrictions.

2. *Shared Jurisdiction Over Navigable Waters*

When the FWS shares jurisdiction over navigable waters on refuge lands, it has very little authority to control harmful activities on these

119. Most oil and gas activities occur on such refuges. In their 1986 annual report, the National Audubon Society reported that of the 67 refuges that have oil and gas activities in the lower 48 states, 48 accommodate such uses because of reserved and excepted subsurface rights. 1986 Audubon Report at 435-437 (cited in note 19).

120. *Id.*

121. The *Refuge Manual* does stipulate guidelines for protecting refuges against unnecessary or unreasonable damage resulting from oil and mineral development, though it fails to guide refuge managers as to conflicts over private rights.

122. GAO Report at 54-55 (cited in note 3).

shared waters.¹²³ There are not many options available to the FWS with regard to this problem. The FWS could try to ascertain its rights as to certain flows or quality of water by instituting actions under the reserved rights doctrine or the Clean Water Act, or they could try to gain protection under the Wild and Scenic Rivers Act. In reality, however, gathering data for these types of actions requires both adequate funding and staffing.

An illustrative example is found on the waters of the Stillwater National Wildlife Refuge in Nevada. The Stillwater Refuge is an oasis of marshes, wetlands, and lakes in the middle of the desert terrain of the eastern part of the Pacific flyway.¹²⁴ However, because the 1948 Stillwater enabling act did not give the FWS any control over water decisions, and because the refuge receives only the return flows from irrigation in the Truckee-Carson Irrigation District, so little water now reaches the refuge that over 80 percent of the refuge marshes have dried up. The refuge's lack of water rights also gives it no assurance that the little water it receives will be of good quality; in fact, contaminated water resulted in the deaths of over 50,000 ducks in 1983.¹²⁵

3. *Lack of Fee Title Generally*

FWS lack of jurisdictional powers over easement refuges adds additional problems to refuge management. An easement refuge consists of partially owned or leased lands over which the FWS has limited management rights. Problems emerge because any activity not prohibited by the easement agreement is allowed, essentially curtailing any relevant compatibility standards.¹²⁶

The Upper Mississippi River National Wildlife and Fish Refuge is such a refuge. The FWS only owns forty-six percent of the refuge, with the Army Corps of Engineers owning the remaining fifty-four percent.¹²⁷ Because of the FWS's lack of fee title they have very little control over the incompatible uses such as timber harvesting and mineral development that the Army Corps is currently allowing on refuge lands. The only real solution to the problems associated with easement refuges is to buy fee

123. Primary jurisdiction over these waters is vested in the Coast Guard, which is responsible for marine law enforcement, and the Army Corps of Engineers, which is responsible for keeping the waters navigable. GAO Report at 38 (cited in note 3).

124. *Id.* at 71-72.

125. The Wilderness Society, *Ten Most Endangered Wildlife Refuges* (1988).

126. *Id.*

127. *Id.*

titles to refuge lands, but this of course will require increased congressional appropriations.

CONCLUSION

The purpose of the National Wildlife Refuge System is to provide protective habitat for the restoration, protection, and perpetuation of hundreds of species of birds, mammals, and fish, many of them threatened or endangered. However, because of current management practices permitting secondary uses of refuge lands that destroy habitat, pollute resources, and kill wildlife, this purpose has been seriously jeopardized.

To fulfill the NWRS's purpose, many things need to be done. First and foremost, Congress should enact an organic act. This act should set forth strict standards of compatibility to ensure that wildlife resources are not harmed by secondary uses. The organic act should also require the establishment of primary purposes for all refuges so that the compatibility standard can be weighed against the individual refuge's purpose as well as against the overall goals of the system. Additionally, the act should include planning provisions to ensure the effective operation of the system, as well as clear enforcement standards. Such an act would not only provide the FWS with compatibility standards and management guidelines, but it would also force the FWS to reject outside pressures to allow incompatible uses.

The NWRS's current lack of an organic act is necessarily intertwined with all its other management problems. For instance, an organic act would set forth procedures for the interpretation and implementation of already existing refuge legislation and federal wildlife laws. Thus, manager discretion would be largely curtailed, leading to a cohesive management scheme for the system as a whole. Procedural stipulations would also lessen refuge manager susceptibility to outside pressures.

As to funding, not only would passage of an organic act conceivably lead to an increase of congressional appropriations by generating strong constituent support, but funding would have to be increased in order to uphold the very tenets of the organic act. Increased funding is needed to increase refuge staff so that the provisions of the organic act, the purposes of the NWRS and individual refuges, and existing federal laws can be enforced. Increased funding is also crucial to solving many of the FWS's purchasing power problems. It would not only provide funds for refuge acquisition and expansion, but would allow the FWS to buy land, water,

and subsurface mineral rights in fee title, thus alleviating many of its current jurisdictional problems.

In exploring solutions to the problems behind the NWRS's plight, it is apparent that any proposed actions will necessarily result in controversy among conservationists, government agencies, industry, affected communities and others. However, if the purpose of the NWRS is truly to provide a safe haven for wildlife, wildlife interests must take precedence over competing uses. As this article spells out, the ideal way to do this is to implement an organic act that is suited to the spirit and the letter of the laws which created refuges in order to protect wildlife and their habitat.

